OPERATING PERMIT APPLICATION

MONTANA LIMESTONE RESOURCES

APPENDIX F

WEED MANAGEMENT PLAN

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October, 2014

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1.0 PURPOSE AND OBJECTIVES

This weed management plan presents strategies to prevent and/or control the spread of noxious weeds during operations and reclamation of the Montana Limestone Resources Project (Project). MLR will be responsible for implementing the practices described in this Plan. Monitoring during operational and reclamation phases will ensure that weed management objectives are achieved.

The objectives of noxious weed management on the Project include the following:

- prevent the establishment of new populations of noxious weeds in previously uninfested areas within the Project area and limit the spread of existing infestations to the extent feasible;
- monitor topsoil stockpiles for noxious weeds and control any noxious weeds observed on topsoil stockpiles prior to redistribution;
- monitor reclaimed areas after topsoil redistribution and seeding and control any noxious weeds observed in reclaimed areas;
- monitor mine facilities (e.g. conveyor and other infrastructure) for noxious weeds, and control any noxious weeds observed in these areas;
- minimize possible negative effects to desirable vegetation within the Project area by control activities;
- coordinate and consult with designated State and County weed personnel regarding noxious weed control activities to ensure compatibility with existing weed control protocols; and
- respond to landowner and/or regulatory agency reports of weeds during reclamation.

This plan addresses all Project lands disturbed by mining activities, including life-of-mine (LOM) features such as the conveyor, and other facilities referenced in the Operating Plan permit application.

2.0 NOXIOUS WEED MANAGEMENT REQUIREMENTS AND COMMITMENTS

Noxious weed management requirements and commitments are outlined in Montana's Weed Laws and the Granite County Weed Plan (Granite County Weed District 2012).

2.1 MONTANA WEED LAWS AND REGULATIONS

Eight Montana laws pertinent to weed management for the Project are summarized below. The current list of noxious weeds for Montana can be found on the Montana Department of Agriculture's website (http://agr.mt.gov/agr/Programs/Weeds/MTNWEC/NoxiousWeeds.html).

1) Montana County Weed Control Act (Title 7, Chapter 22 Part 21) provides for weed management activities at the county level. Local county government has the responsibility for the implementation and enforcement of weed management in Montana.
2) Montana Weed Control Act (Title 80, Chapter 7 Part 7) provides for technical assistance, embargoes, and rearing and distribution of biological control agents (80-7-720 MCA).
3) Montana Noxious Weed Trust Fund Act (Title 80, Chapter 7 Part 801) is a grant-funding program designed to encourage and support local cooperative weed management programs, weed research, public education, awareness, and outreach programs.

4) Montana Noxious Weed Seed-Free Forage Act (Title 80, Chapter 7 Part 9) establishes a certification program that provides for production of weed seed-free forage and mulch used by individuals, agencies, and private corporations on public and private lands. The Montana program supports and complements the regional North American Weed Management Association (NAWMA) weed-free forage certification program. This Act also applies to straw used for mulch on reclamation projects.
5) Montana Agricultural Seed Act (Title 80, Chapter 5, Section 80) lists prohibited and restricted weed seed levels that must be maintained in state certified seed.
6) Montana Nursery Law (Title 80, Chapter 7 Part 1) allows for inspection, certification, and embargo of all nursery stock for listed pests, including weeds.
7) Montana Aquatic Invasive Species Act (Title 80, Chapter 7 Part 10) provides for measures to prevent the introduction, importation, and infestation of species such as zebra and quagga mussels, curly leaf pond weed, watermilfoil, and disease organisms that could threaten the state's waters.
8) Noxious Weed Control on State Lands Law (Title 77, Chapter 1 Part 1) provides a notification process for noncompliant weed control on state lands and allows the Department of Natural Resources and Conservation (DNRC) to control weeds on state land and bill lessees for costs incurred.

2.2 WEED CONTROL ON MONTANA SATE-OWNED LAND

State-owned land within the Project area is managed by the Montana DNRC Trust Land Management Division. Under the Project's right-of-way easement agreement with the State of Montana, the Project will be required to control noxious weeds for the life of the Project within the Project boundary/right-of-way easement and prevent the spread of noxious weeds onto land adjoining the right-of-way easement land regardless of the presence or absence of weeds on lands adjacent to the Project area.

2.3 GRANITE COUNTY WEED PLAN

County weed control districts in Montana are responsible for developing a district-wide noxious weed management plan to assist county residents and others in complying with the Montana County Weed Control Act.

The Granite County Noxious Weed Management Plan (Updated 2012) outlines weed law enforcement policy. The weed law will be followed when entry must be made onto private land to verify a noxious weed complaint or sighting. The County Weed Plan also outlines specific requirements for mining operations as outlined below.

- The project proponent must notify the county weed board at least 15 days prior to initiation of mining operations.
- A noxious weed management plan which provides guidance for weed management and revegetation must be approved by the Granite County Weed Board at least 15 days prior to the initiation of mining operations.

- The Project must take reasonable and necessary steps to ensure that all vehicles and heavy equipment used on the project site are free of noxious weed plant parts prior to being transported on public roads located in Granite County.

3.0 BASELINE VEGETATION INVENTORY

A baseline vegetation inventory within the area of the proposed development was conducted by WESTECH biologists in 2013 on May 15, May 21 and June 7; July 2-3, July 9-13, July 18; and September 21. The inventory was conducted by biologists familiar with taxonomic characteristics and typical habitats of Montana's noxious weeds. The baseline vegetation inventory addresses a thorough level of study of the Project area. Quantitative sampling was conducted in the Project area in areas potentially affected by proposed initial operations and is further discussed in the Baseline Vegetation Inventory Report (Scow 2014).

The distribution of noxious weeds by vegetation community type are presented in the Baseline Vegetation Inventory Report (Scow 2014). Ten state-listed weed species (one Priority 2A and nine Priority 2B), and one Priority 3 regulated plant species were encountered on the study area during the 2013 MLR baseline inventory. The species recorded in the Project area are discussed in the Baseline Vegetation Inventory Report.

4.0 MONITORING DURING OPERATION AND RECLAMATION PHASES

The focus of MLR's weed management program is to protect weed-free vegetation communities by monitoring and treating new or expanding weed populations within the Project area during operations and reclamation phases. During operations, the distribution and density of noxious weeds will be monitored on topsoil stockpiles and all project-related infrastructure. Topsoil stockpiles that are not to be redistributed for one year or longer will be protected from erosion and from the invasion of noxious weeds by the establishment of a certified noxious weed seed-free native vegetation seed mix. Noxious weeds may emerge on topsoil stockpiles because the seeds were previously dormant in the soil or were carried to the stockpile by wind. During operations, topsoil stockpiles will be monitored and managed in the event that noxious weeds emerge.

The distribution and density of noxious weeds will be assessed during reclamation monitoring. Surveys will be conducted as early in the year as feasible to identify and control noxious weeds before they produce seed. Noxious weeds, if present, will be documented on noxious weed inventory forms. Percent cover, phenology, infested area and density (stems/0.01-acre) of weed species will be ocularly estimated. Boundaries of noxious weed populations will be delineated with a GPS unit.

Weed monitoring will be conducted in conjunction with revegetation monitoring consistent with the reclamation plan and MDEQ regulations.

5.0 NOXIOUS WEED MANAGEMENT

Weeds are spread by a variety of means that may include construction and mining equipment, construction and reclamation materials, livestock, wildlife, and wind. The risk of establishing weeds increases with ground-disturbing activities (Sheley et al. 1999). This Plan emphasizes: 1) preventing the establishment of new populations of noxious weeds in lands that are currently weed-free; and 2) limiting the spread of existing populations of noxious weeds as feasible. The following section presents strategies to manage noxious weeds during pre-operations, operations and reclamation phases of the Project.

5.1 PREVENTIVE MEASURES

Measures that have been or will be implemented to prevent the spread of noxious weeds prior to and during Project operations and reclamation phases include those listed below.

- Baseline vegetation inventories, including noxious weeds, were conducted on the Project area. Supplemental noxious weed surveys will be conducted on other Project-related disturbances prior to vegetative clearing as necessary (e.g. life of mine features). Existing infestations will be described (species, density, and extent) and recorded on a map.
- MLR may implement weed treatment prior to construction/operations on a site-specific basis. Pre-construction treatments may include mechanical means (mowing, clearing) or herbicides, depending on the species present and size of the population.
- All used equipment brought to the mine will arrive at the work site clean and free of noxious weed seeds or parts. Equipment that requires cleaning will be addressed using either compressed air and shovels or using high-pressure washing devices. Vehicles and equipment will be inspected and verified that they are free of soil and debris capable of transporting noxious weed seeds or parts prior to being allowed access to the Project area.
- Noxious weeds will be controlled prior to soil stripping and prior to soil redistribution to the extent feasible. To prevent potential problems with germination and establishment of desirable vegetation after seeding, residual and mobile residual herbicides will not be used on topsoil for a minimum of six months prior to stripping/stockpiling and 12 months prior to redistribution from a stockpile. If noxious weeds are present and require treatment within 18 months of these operations a non-soil active, non-residual herbicide such as glyphosate will be used. This treatment would allow reseeding to occur immediately (CODRMS 2014).
- Topsoil stockpiles will be seeded with a certified noxious weed seed-free native seed mix in order to protect the soil from erosion and from noxious weed seed invasion. Topsoil stockpiles will be inspected and noxious weeds controlled prior to redistribution.
- Other high priority areas that will be monitored for noxious weeds are major traffic areas, road cuts and embankments, and non-use areas around buildings. Ditches and pond embankments will also be high priority management areas to prevent offsite contamination by water-transported seeds.
- MLR will implement revegetation activities as promptly as possible on lands disturbed by past activities while continuing to develop the limestone resources in other parts of the mining area.

Revegetation will occur during the optimal seeding and planting window. An adequate vegetative cover greatly reduces the opportunity for invasion by noxious weeds.

- Fertilizer will be applied to reclaimed areas only if soil from stockpiles is deficient in nutrients as determined by soil testing. Fertilizer will generally not be applied to direct-haul topsoil. Fertilizer is known to enhance the growth of noxious weeds.
- The source of straw/hay bales and mulch used for erosion control will be identified to verify that it is noxious weed-free.
- All seed used will be certified noxious weed-free.
- Imported gravel or fill material will be source-identified to ensure that the originating site is noxious weed-free.

5.2 MANAGEMENT METHODS

Management of noxious weeds would occur if one or more of the following three criteria are met:

1) A new noxious weed population is confined to the Project area;
2) A noxious weed population is expanding via the Project; and/or
3) A noxious weed population is impeding revegetation establishment.

Weed monitoring and management will continue until revegetation success criteria have been met and the performance bond is released.

Noxious weed management will be in accordance with state and county regulations, and jurisdictional land management agency or landowner agreements. Control measures may include one or more of the methods listed below.

- Mechanical methods will include hand-pulling, mowing or discing weeds. If these methods are used, subsequent seeding may be conducted to re-establish a desirable vegetative cover that will stabilize soils and limit the potential establishment of noxious weeds.
- County, State, and Federally-approved herbicides will be utilized to control noxious weed populations at selected sites. Applications will typically be controlled to minimize impacts on surrounding vegetation (specific plants will be targeted). In areas of dense infestation, a broader application will be used and a follow-up seeding program implemented if needed. The timing of subsequent revegetation efforts will be based on the life of the selected herbicide and appropriate seeding windows.
- In the event that seeding is delayed following redistribution of topsoil because of weather or scheduling constraints, annual weed species and undesirable vegetation that have become established will be mechanically removed (e.g. discing, harrowing) as part of seedbed preparation.
- MLR will respond to landowner reports of post-construction noxious weeds on or adjacent to the Project area or Project facilities. Where it is determined that new populations have become established, or weed density or extent exceeds the pre-mine occurrence, MLR will either treat directly, treat via county or private contractor, or reimburse the landowner for reasonable costs

associated with the treatment of documented weeds. Mechanical/cultural control methods or herbicide treatments will be considered.

Management methods will be based on species-specific and site-specific conditions (e.g. plant phenology, proximity to water or riparian areas, agricultural activities, time of year) and will be coordinated with landowners and local regulatory agencies.

5.3 EDUCATION

MLR will provide information to its employees regarding noxious weed identification, reporting, and impacts on agriculture, livestock, and wildlife. The critical importance of preventing the spread of noxious weeds in uninfested areas, and controlling the proliferation of weeds already present will be explained. The importance of adhering to measures to prevent the spread of noxious weeds will be emphasized.

6.0 HERBICIDE APPLICATION

Herbicides will be utilized on a limited basis during the pre-operations phase and as the primary control method during the operations and reclamation phases. Herbicides used on the Project will first be approved by the Granite County Weed Supervisor. All persons applying herbicides will have current Montana certification.

7.0 REPORTING

Weed control activities will be documented. A report will be prepared describing occurrence, distribution, and abundance of noxious weeds and weed control activities. Reported data will also include survey dates, herbicide treatments, amount and types of chemicals applied, and a list of participants and their activities. Reports will be presented to the Granite County Weed Supervisor and other relevant agencies.

8.0 REFERENCES

Colorado Division of Reclamation Mining and Safety (CODRMS). 2014. Guideline for the Management of Noxious Weeds on Coal Mine Permit Areas. Available at http://mining.state.co.us/Programs/Coal/RulesRegs/Documents/NoxiousWeeds.pdf Retrieved 15 September 2014.

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